

Determining the Composition and Collectibility of Child Support Arrearages

Third Performance Report

This semi-annual progress report covers project activities for the period October 2000 – March 2001. During this period project work continued on schedule. This report includes a brief statement of the project research plan, a summary of project activities for the period, and some preliminary data analysis. The financial status report will be sent separately.

Summary of Project Plan

This is a study to determine the patterns of debt growth in Washington State child support cases. Our goals are to understand the processes and components of child support that lead to large debts; document the mitigating effects of interventions on collectibility; determine the impact of law and policies on debt growth; and recommend changes that will lead to lower arrearages.

To accomplish these goals, our objectives in this project are as follows:

- To quantify the rate of arrearage growth;
- To develop a model to predict debt growth outcomes and collectibility;
- To quantify the interaction of parents' usage of public assistance programs, participation in work activity programs, and payment of child support to determine the impact of interventions on debt collectibility;
- To document which field interventions are most effective in working older cases with high arrearages;
- To develop a model to chart points of return per effort (cost effectiveness breakpoints);
- To document the effect of Washington State's statutes, codes, and policies on the life cycle of the child support debt process;
- To prepare recommendations for changes necessary to optimize collectibility of debts, write off bad debt, and minimize future arrearage building;
- To evaluate the effectiveness of DCS programs in light of the federal incentive measure on arrears.

There are several parts to this study. The main part of the project is based on construction and analysis of a large database containing information on child support cases, noncustodial parents, other parties to the cases, and other public program usage. Carl Formoso constructed the database and has

conducted longitudinal data analysis and neural network analysis to develop a model for predicting debt outcomes.

The center of the study is the cohort of noncustodial parents (241,731 persons) listed on the universe of open child support cases present on SEMS (the DCS case management computer system) in third quarter 1995. Our longitudinal database enables us to track these individuals for 15 quarters, from fourth quarter 1993 to second quarter 1997. With this cohort we can look back seven quarters and forward seven quarters. This period was chosen because it is a relatively stable period before welfare reform was implemented. The model can then be applied to other time frames.

The database also contains information on the other parties to those cases, i.e., the custodial parents and children. Consequently, we can link individuals to multiple cases.

Through cross-matches with other administrative databases, we can measure networks of program usage, such as public assistance, mental health or alcohol/drug treatment, or vocational rehabilitation.

During the project Carl Formoso has analyzed these data to determine the distribution of arrears patterns (increasing, decreasing, remained same, intermittent). He has used the techniques of logistic and neural network modeling and survival analysis to develop the model for predicting debt outcomes.

The second part of the study is a case assessment based upon stratified samples representing debt patterns identified by the model. We developed a case review coding instrument which allowed the researcher to review the sample cases on SEMS and code her assessment directly into a Microsoft Access database while working at the computer. (A copy of the coding questionnaire was included in the Second Performance Report as Appendix B.)

The focus here was an intensive review of the cases to capture information from case comments and other sources not preserved in SEMS flatfiles and other administrative databases. For example, we wanted to know the basis used for setting the original child support amount (actual income, imputed median net, etc.). We wanted to know what locate and collection tools were used. When noncustodial parents have multiple cases, how much overlap is there among those cases (in children, custodial parents, and orders)?

An experienced support enforcement officer (SEO) was hired as research analyst. The analyst, Jeannie Anthony, reviewed the case to determine how the obligation was set for the original order, the history of modifications, the noncustodial parent's income history, number of child support cases, payment record, and significant DCS enforcement actions and other interventions. The SEO also checked for evidence that DCS was aware of such factors as disability, public assistance usage, corrections record, and other barriers to collection, and evaluated DCS response in such instances.

This two-tiered analysis of debt patterns on child support cases will allow us to quantify the rate of arrearage growth, reliably predict debt growth outcomes and collectibility, determine cost breakpoints, and explain why the patterns occur. We want to document not only what is happening, but also why it is happening.

Two other parts of the study were substantially completed during the first six months of the project. We examined the contribution of various programs, including federally mandated ones, to increasing DCS collections on child support arrears. We examined DCS field office pilot projects and other local initiatives to assess their role in reducing child support debt. Of particular interest were field office projects implemented as part of WorkFirst (Washington's welfare-to-work program). We also investigated projects specifically aimed at hard-to-work cases with large debts. Our first progress report discussed DCS initiatives in some detail.¹

Another part of the study is to review Washington statutes and policies that govern how child support debt is handled over the lifetime of the case. Washington law contains provisions for charging off child support debts deemed uncollectible or reducing such debts for hardship when the debts are owed to the state (i.e., DSHS). Such reviews are conducted on a case-by-case basis as requested.

Our first progress report discussed the impact of certain statutes and policies, such as the statute of limitations on child support debt, requiring the noncustodial parent to sign a waiver of the statute in return for lowering monthly payment amounts, and the use of imputed income in setting order amounts. The report reviewed current DCS initiatives aimed at speeding up and simplifying the process of correcting orders. It discussed initiatives to streamline the debt reduction process as well.

Finally, on the basis of our findings, we will recommend ways to manage debt on old cases and to avoid practices that appear to contribute most to arrearage growth. If it appears that certain statutes and practices are outdated and contribute to rapid arrearage growth, project findings may recommend changing them. We hope to suggest expedited remedies for review of cases determined to be uncollectible. We will suggest strategies and program changes that appear effective in responding to new federal requirements.

For more detail on the project's schedule of work, please see the Project Time Line Chart attached as an Appendix.

¹ *First Performance Report*, May 2000, especially pp. 18-38.

Case Assessment Work During the Past Six Months

During this period Jo Peters and Jeannie Anthony worked intensively on the case assessment section of the project.

Jeannie finished the sample case coding and worked with Jo in data cleaning and clarifying some coding decisions. She also drafted a summary of her observations about case documentation, order setting, and other problems she encountered in coding the sample case assessment. These observations will be incorporated into the final report.

February was Jeannie's final month for project work. Her last scheduled day was more dramatic than planned or desired: it ended early with the earthquake. In March she returned to her position in the Tacoma field office.

Jo continued building the SPSS datafile on the sample cases, using the coded case assessment as well as a data match with the March flatfile. She is now analyzing the data. Currently she is looking at the relationship between support orders, initial debt (court-ordered judgments and Washington administrative debt as well as on interstate cases), and the growth of arrearages.

Neural Network Prediction Model - Progress

We have developed a prediction tool for child support arrearage debt. This tool is able to predict, with up to about 80% accuracy, the direction of change in arrearage debt for individual non-custodial parents (NCPs). The tool uses neural network simulation modeling, requires client information from an eight quarter base period, and makes predictions for three quarters in the future or seven quarters in the future.

The development work used a cohort of all identifiable NCPs in Division of Child Support (DCS) records in third quarter of calendar year 1995 (95Q3). All data was from administrative sources. Fifteen quarters (from 93Q4 to 97Q2) of DCS records were extracted for information on the 241,731 individuals in this cohort. Employment and earnings history for these individuals were extracted from Employment Security Department (ESD) records. Welfare records from the Office of Financial Management (OFM) were extracted to obtain public assistance history for these individuals, and for the associated custodial parents. We were also able to obtain history of use for a wide range of public services and programs for most, but not all, of the cohort NCPs.

Our approach was to first select a small number of data elements (variables) which appeared to have predictive power and then to develop an optimum model to obtain the best predictions. Starting with over one hundred variables, a series of tests resulted in ten variables that consistently showed predictive

power. Eight of these are from DCS history, one is earnings history, and one is welfare history. We show that predictability can be improved by inclusion of eight variables derived from history of use of public services and possibly three variables derived from the case studies detailed elsewhere in this report, but these variables are not included in the general models since we do not have this information for all members of the cohort, and this information would usually not be available in applications of the models. While we did use an organized approach to optimizing the models, trial-and-error is really the only method available. Thus we cannot claim to have developed the best model possible, but we do have a prediction tool that performs very well and is potentially useful. Of course, developing appropriate policies and strategies to make this tool useful in managing child support arrearage debt will require considerable work.

The prediction tool does not attempt to make predictions for all NCPs submitted, but is able to select those NCPs for whom outcomes can be more reliably predicted. It appears that for a general group of NCPs third quarter predictions will be made for about 60% of the individuals and up to about 75% of the predictions will be correct; seventh quarter predictions will be made for about 50% of the individuals and up to about 70% of the predictions will be correct. Better predictions can be made by pre-selecting individuals based on their history. For example, pre-selecting individuals with the highest earnings allowed third quarter predictions to be made for 80% of the individuals and 83% of the predictions were correct. Applications of the prediction tool to newly defined NCP cohorts show promising results.

We are in the process of finalizing various aspects of this work.

Appendix

Project Time Line Chart

